



# Monitoreo nacional de microplásticos costeros (National monitoring of coastal microplastics)

Environmental monitoring of microplastics, reduction of plastic use.



## Objectives

### Overall goal

Conduct a collaborative study across Argentina, on the coasts of the sea, rivers and lakes, to analyze the presence, amount and composition of microplastics through a systematic and massive survey.

### Specific goals

- Study plastic items between 1 mm and 25 mm in size and disclose the results to society as a whole in order to provide crucial information that serves to measure the issue and find solutions.
- Compare data with the rest of the world using The Big Microplastic Survey project undertaken by conservation charity Just One Ocean. The purpose of this study is to gather global information on the most frequent microplastics found in the coastal sites of seas, lakes and rivers, to promote comprehensive conservation on the planet.

### Description of citizen participation

Students or anyone interested can participate in the project, and after receiving information or with the coordination of a sampling supervisor, they are in charge of recording the data and analyzing the samples.

Following a simple and systematic scientific sampling protocol, they collect information from those plastic items ranging in size from 1 mm to 25 mm found in coastal sites of seas, lakes and rivers, and report the results. Citizens are responsible for classifying samples into primary and secondary microplastics, type and size of plastics, amount and presence of other components (e.g., cigarette butts) in the samples, if any.

Samples are collected along the shoreline, parallel to the water. The position (GPS coordinates) of part of the sample, which is recorded as the position, should be captured.

### Type of citizen science project

- Collaborative Project: Citizens participate in data collection and analysis.

### Participating parties.

- Whale Conservation Institute in Argentina (ICB).
- Beach cleanup initiatives suggested as part of the activities in the Patagonia Eco Film Fest (PEFF).
- Science Club and summer camps in the city of Puerto Madryn.
- Researcher at the National Scientific and Technical Research Council (CONICET) in Argentina.
- Students of all educational levels from schools in Puerto Madryn, Comodoro Rivadavia y Río Grande.
- Global Penguin Society.

**Status.** In progress.

**Time frame.** 01/11/2019 - N/A

**Frequency of project execution.** According to the demands or approaches to the community/communities.

**Participation period.** On a sustained basis.

**Scope of the initiative.** National (two or more provinces).

**Geographic scope.** Samples taken—or intended to be taken—in the Argentinian provinces of Tierra del Fuego, Santa Cruz, Chubut, Río Negro, Córdoba, Buenos Aires and Misiones (with headquarters in Chubut).

**Project development members.** It has been developed with the collaboration of both scientists and participants without formal training.

**Number of participants.** From 51 to 100.

### Action/s involving citizen participation.

- Data collection.
- Data analysis.
- Phenomenon monitoring.

### Technological device/tool required.

- Two buckets.
- A 4 m rope, 4 stakes (or similar).
- A 1 mm mesh sieve or strainer (common kitchen sieve).
- A mobile phone with GPS to record the latitude and longitude of the sampling site, and to capture images of the results and of the sampling process (the latter is optional).

Participants must then classify their results according to the microplastic tables downloaded from the web and submit the results.

**Recruitment methods.** Through social media, teachers from local schools (Puerto Madryn) or from other regions (e.g., Río Grande) who get in touch to include the issue in the curricula or as a free proposal, and students who take their concerns to the classrooms.

**Replicability.** It has not been replicated yet.

**Scalability.** The program is scalable in terms of increased activity and sites to be evaluated/sampled. It is expected that by the end of 2022 the program will be active throughout the country.

**Open access to data.** Online, accessible, but the Spanish website is still under construction (currently in English).

**Feedback.** Within “permanent” sites (from one to three monthly samplings for at least one year). A meeting is to be organized with the coordinators to brief them on the results.

The general documents and partial results of all the samples will be disseminated through social media and the Foundation’s website. In addition, they are openly online (in English) on the project’s global site.

**Linkage with state agency/government.** No.

**Institutional funds.** ProyectoSub Foundation’s own funding sources. NGO Wildlife Conservation Society (WCS). Avène Eau Thermale.

**Awards/distinctions.** No.

**Comments.** The methodology proposed worldwide by conservation charity JUST ONE OCEAN is used to make the results internationally comparable.

The information is compiled in <https://microplasticsurvey.org/results>.

### Knowledge areas/disciplines (OECD)

**Natural and Exact Sciences /** Earth and Environmental Sciences  
**Natural and Exact Sciences /** Biology

### Leaders.

- Martín Brogger, Institute of Marine Organisms Biology (IBIOMAR)/ Patagonian National Research Center (CENPAT)/National Scientific and Technical Research Council (CONICET) in Argentina and ProyectoSub Foundation.
- María Florencia Ríos, Institute of Marine Systems Biology (IBIOMAR)/ Patagonian National Research Center (CENPAT)/National Scientific and Technical Research Council (CONICET) in Argentina and ProyectoSub Foundation.
- Melisa Gatti, ProyectoSub Foundation.

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